PROFESSIONAL
ENGINEER

fficial Publication of American Association of Engineers

Illinois U Library

Engineer Unions from the Reviewing Stand

A Survey for the Information of Engineers
Engineering Executives and Engineering Societies

SECOND INSTALLMENT

What Do Engineers and Scientists Seek in Their Unions?
What Are Engineers Bargaining For?

l. 41 No. 4

New Wiley Books . . .

IRRIGATION ENGINEERING, Vol. II

By IVAN E. HOUK, *Consulting Engineer, Denver, Colo.* Only up-to-date treatment available of projects, conduits, and structures. Stresses practical requirements for planning and constructing irrigation projects. *1956. 531 pages. $14.00.*

ROCKET PROPULSION ELEMENTS

An Introduction to the Engineering of Rockets, 2nd Ed.

By GEORGE P. SUTTON, *North American Aviation, Inc.* The second edition includes a broader treatment of the basic elements and the technical problems and a more comprehensive and complete description of the physical mechanisms, applications, and designs of rocket propulsion systems. *1956. 483 pages. $10.25.*

AMERICAN CIVIL ENGINEERING PRACTICE

Vols. I, II, III

Editor-in-Chief: ROBERT W. ABBETT, *Tippetts-Abbett-McCarthy-Stratto Engineers.* A three-volume work replacing Merriman's *American Civil Eng neers' Handbook.* Presents fundamental principles, procedures, and data o modern civil engineering in concise form. *In preparation.* $15 each vol.

ELEMENTS OF GASDYNAMICS

By H. W. LIEPMANN *and* A. ROSHKO, *both of the California Institu of Technology.* Gives a sound physical background for work in modern gas dynamics and high speed aerodynamics. Fundamentals stressed. A publicatio in the Galcit Aeronautical Series, edited by Theodore von Kármán & C. B Millikan. *1957. Approx. 406 pages. Prob. $8.50.*

CIRCUIT THEORY AND DESIGN

By JOHN L. STEWART, *California Institute of Technology.* Gathers to gether much data on vacuum-tube and feedback systems from the point o view of modern network theory. *1956. 480 pages. $9.50.*

THE ART AND SCIENCE OF PROTECTIVE RELAYING

By C. RUSSELL MASON, *General Electric Co.* Deals with relay protectio of all elements of a power system against all normal operating conditions, a practiced in North America. One of a series written by General Electri authors for the advancement of engineering practice. *1956. 410 pages. $12.00*

SEWAGE TREATMENT, 2nd Ed.

By KARL IMHOFF, *Consulting Engineer, Essen, Germany; and* GORDO MASKEW FAIR, *Harvard University.* Presents simply and concisely the re quirements and practices of modern sewage treatment. Completely rewritte this edition covers recent devlopments in the field. *1956. Approx. 346 page $7.50.*

For Sale By:

A.A.E. Book Dept.

8 South Michigan Ave. Chicago 3, Ill

Professional Engineer

"THE VOICE OF THE ENGINEER"

★

Published Four Times a Year at Mount Morris, Illinois

The American Association of Engineers
8 South Michigan Avenue, Chicago 3, Ill.

e 41 December 31, 1956 Number 4

oard of Directors
1954-1955

President
ATRICK J. LUCEY
S. LaGrange Road,
LaGrange, Illinois

Vice President
GEORGE HAVAS
1924 Broadway
akland 12, Calif.

ND J. FITZMAURICE
18 Rodman Ave.,
Haddonfield, N.J.

ERETT C. SHUMAN
28 Innisbrook Road
Toledo 6, Ohio

W. H. SCALES
0 Canal Building
ew Orleans, La.

H. HOUSHOLDER
330 E. Brill Ave.
hoenix, Arizona

WALTER R. JEFFREY
9568 S. Prospect
icago 43, Illinois

cretary-Treasurer
M. E. McIVER
Chicago, Ill.

Table of Contents

Page

Engineer Unions From the Reviewing Stand

A Survey for the information of Engineers and the Engineering Profession
(Second Installment)

What Do Engineers and Scientists Seek in Their Unions.. 4
An Editorial

Engineer Unions from the Reviewing Stand............. 7

Aims and Achievements of the ESA (continued)
Other Problems Confronting ESA Professionalism and Ethics. CWETE Offers $4000, If . . .

Desire for Professional Recognition (The Famous CWETE Case) 9

CEWTE Seeks Cooperation of NSPE..................11
Federal Court OK's CWETE-N Suit
The Company Analyzes the Council

What Are Engineers Bargaining For? 14
The Fight for Principles
De-Merit System
Supervisor's Discretion
The "Shortage" and "Compression" of Salaries
Fact or Fancy?
Shortage & the Salary Structure
Salary Compression Behind Engineers Turning to Unions
Advt. by General Electric
President's Impressions
Salary Decompression Featured in New Sperry Contract
AIA Again

Unfair Labor Practice Charges........................20

(This Survey will be completed in the next issue, Vol. 42, No. 1)

M. E. McIVER, Editor

Association of Engineers assumes no responsibility for statements made or opinions expressed by contributors of articles published in Professional Engineer.

Second Class Mail Privileges authorized at Mount Morris, Illinois.
scription price, U.S., $1.00 a year; Canada, $1.50; foreign, $2.00. Printed in U.S.A.

What Do Engineers and Scientists Seek in Their Unions?

No clear answer to that question can be found in the article in t issue entitled "Engineer Unions from the Reviewing Stand" (first inst ment in the preceding issue). The photograph is necessarily blurred if subject is not sharply defined. What engineers hope to gain through un ism varies with the unit under examination, from the aspirations of "sounding board" unions to the demands of those which model themse in the image of the AFL-CIO. But even the most militant groups are from precise in stating their general aims in terms explicit enough to corporate in bargaining for a contract. All of them have the same br aim—to improve the economic and professional status of their memb They may be explicit in certain aims, capable of expression in terms pay increases per hour, liberalized hospital and medical insurance plans other benefits on which the members of a certain union can reach ag ment in their own organizations. But even these aims may vary from t to time and there is no issue on which all groups throughout the nation in complete agreement.

Everywhere engineers are eager for professional recognition, but desire is more apparent in querulous complaints about lack of recogni than in specific contractural demands for correctives. To satisfy the e neers who have been assigned to a bargaining unit (despite their opposi to unionism as non-professional) some of the unions have stated t desire for fairly specific practices: credit for authorship of technical ports; time off with pay to attend professional meetings; leave (with without pay) for advanced study; subsidies for schooling or tuition graduate courses.

Some of the unions have been successful in obtaining more plea working conditions and improved facilities. They have been gratified company acquiescence in their demands for roomier office space, new eq ment, cleaner restrooms, increased parking space for employees' cars. some areas the unions have demanded and obtained, through bargain more liberal hospital and medical insurance, better pension plans. In otl their failure to obtain such fringe benefits has produced bitterness. All

ons contend that the unwieldy size of modern engineering departments
totally destroyed, or blocked, “upward communication.” They insist
t management can easily transmit “downward” its messages to em-
yees, stating its position on issues, making known its demands, while
employees can reach top executives only through a series of manage-
nt blocks.

Granted that the first essential of successful bargaining is pressure,
l that pressure depends on numbers, the unions must at the same time
mpion a form of pay increase which will satisfy the entire group which
y represent and still campaign for merit raises, a basic tenet of profes-
nal employees. The unions find it difficult to express in explicit contract
ns a policy which reconciles these two demands. Furthermore, they are
satisfied with the vagueness of most merit programs, contending that
nagement is purposely indefinite in regard to the vital questions of who
ll receive merit awards, when, for what achievements and how much.
e more militant groups insist that the unions should have a voice in
wering all four of those questions—in ultimate determination of
ards. Particular ire has been aroused by what the unions consider
ersion of merit award funds to other purposes; for example, they object
“merit awards” which take the form of relocation bonuses. These unions
st that merit increases are earned by performances apart from a man's
ingness to transfer to another of the company's plants. In view of the
that unions must satisfy the majority of those they represent in order
ustain membership strength, it is questionable what they would benefit
n assuming any share of responsibility for determining who will receive
it awards.

This consideration is also present in the effort the unions have made
argaining to correct obvious disparity between the fabulous beginning
ries offered by recruiters to new graduates and the salaries that engi-
rs with 5 or 10 years of experience command in the same company.
“Gentleman's Agreement” among employers, in the aircraft industry
cially, the unions contend, blocks the chance that these experienced
ineers might utilize to offset the static salary situation where they are
loyed.

In their relations with the AFL-CIO, the engineer unions shift con-
tly. Outsiders say bluntly that engineer unions cannot conduct a suc-
ful strike without the cooperation of “blue collar” workers, and the
rience of the few engineer unions who have resorted to the strike
ns to bear out this contention. They have succeeded when the AFL-CIO
kers have refused to cross engineer picket lines. This is the explanation
the insistence of some member units that Engineers and Scientists of
rica affiliate with the AFL-CIO. It explains why one AFL-CIO
n met in Dallas at the time of the ESA convention, ready to appear
he floor and invite the engineers to affiliate. Overtures had been made
nember groups of the ESA which made this seem possible. The ESA
d overwhelmingly against this affiliation and, to make the position of

the organizatiton very clear, adopted a resolution stating that the E
was not considering affiliation with AFL-CIO.

Although the engineer unions are afraid that they will lose th
identity as professional employees and be a helpless minority in the ma
labor union, they still seek the friendly cooperation of organized lab
This is seen in journals of engineering unions which violently attack c
tain decisions of the NLRB unfavorable to organized labor, most strikin
illustrated by the suggestion of one such publication that labor "boyco
the NLRB. Although few if any engineer unions could obtain members
approval of a union shop contract, many of their journals denounce "Ri
to work laws" with greater fury than they attack restrictions which ham
them.

Although large numbers of engineers in the automotive industry
represented by major labor unions, and nearly all of them write ingrati
ingly of the AFL-CIO in their house organs, the greater number of en
neer unions still grow very bitter over any action that tends to "dilute"
professional units by assignment to them of sub-professional or non-p
fessional employees. The NLRB's policy of setting up units "predo
nantly professional" has brought the ESA into action in support of a
leaguered member. The Western Electric engineers' union, first to se
a nation-wide contract, has fought in the NLRB and in a federal co
against the employers' alleged violation of the Taft-Hartley Act in ass
ing non-professional employees to units originally delineated in accorda
with the Taft-Hartley definition of a professional unit. The fight contin
although it means that the Western Electric Group is working withou
contract during the hiatus. Other engineer unions have given as th
reason for not affiliating with ESA their belief that the ESA while p
dominantly professional has units which do not meet the other unio
standards of "professionalism." Still others have grown lukewarm tow
ESA (even considered withdrawing from it) because they believe t
technical and professional employees should integrate in unions beca
of mutual interests—and for other obvious and extremely practical reas

When the most outstanding professional engineers of another gene
tion represented engineers employed by the railways in a successful ca
paign to correct inequities in pay—in a comparison of wages paid prof
sional and non-professional workers—the issues were extremely sim
One wonders whether the Moses of that day, who with such skill a
professional dignity established the issues and presented the case of e
ployee engineers, could ascertain and state with effective simplicity
diverse (and sometimes contradictory) needs and aspirations of toda
employee engineers, and lead them out of the wilderness of their c
confused desires.

M. E. McIver
Editor

ngineer Unions from the Reviewing Stand

SECOND INSTALLMENT

Prepared by the authors of "Technologists' Stake in the Wagner Act" and
chnologists' Stake in the Taft-Hartley Act," Herman A. Wagner, Past
sident, American Association of Engineers, M. E. McIver, National Secre-
, American Association of Engineers, and M. P. McGirr, Research Editor,
FESSIONAL ENGINEER, *for the information of Engineers and Engineering*
cutives. Even though A.A.E. has always been unalterably opposed to union-
within the Engineering Profession, it feels it imperative that Engineers
well informed on the subject.

In the preceding issue we discussed the Impact of Unions upon Unity,
ty Among the Many Bargaining Agents of Professional Employees, Sound-
Board Groups, Attitude Toward Technical and Professional Societies. The
s and Achievements of the ESA, Decertification of Professional Employee
ups, Pure Professionalism vs. the Board, the future of ESA, etc.

IER PROBLEMS CONFRONTING ESA

though the related hassles over "pur-
and affiliation with AFL-CIO were
amatic as to overshadow them, there
other problems confronting execu-
of ESA. The group might read with
the unit of A.A.E.'s history en-
"The Chapter Movement." A.A.E.
through a period of fantastic expan-
in which it absorbed whole societies,
ing into special financial arrange-
with each which netted a nominal
ent of dues the first year, and proved
ry in succeeding years. It also was
rassed for funds to carry on its
ious national program because the
ers demanded a disproportionate
of annual dues to finance purely
activities with an inadequate staff.
at its executive committee meeting
ling this year's convention faced
ms that sound familiar to A.A.E.
following story taken from the
E "Federation Reporter" (Decem-
1955) recounts one such problem
consumed a great deal of the time
tention of the Executive Committee
A at its last meeting.

Engineers and Architects Association,
is one of ESA's largest units, is itself
ration. It has many chapters in the
ngeles area and represents engineers
chnical personnel employed by Lockheed, Convair, Rheem, and the City and County of Los Angeles, and, in addition, some members who work for small contractors or who are self-employed.

The dues obligation to ESA is that of the unit, the EAA, but amount is subject to interpretation. It depends upon the reading given to certain portions of the ESA Constitution and By-Laws and supplementary policies which have been enunciated by the ESA Executive Committee. The EAA Governing Board had recently, on its own authority, reached the conclusion that its civil service members (some 30%) do not incur a dues liability by virtue of the "community of interest" clause in the ESA By-laws (Art. No. 1, Sec. No. 2). When informed by President Amann that dues exemption under this clause was a function reserved to the ESA Executive Committee, the EAA asked for a hearing and appointed a committee.

The spokesmen were Lou Wilton, President, George Scott and John Draney. A forceful, but transparent, plea for more service and less dues was made. The complaints were legitimate, but hardly unique. A subcommittee of ESA officers carried the detailed discussion into the dinner hour. Resolution of the difficulties followed the traditional formula of applying grease to the squeaking wheel. ESA will divert some of its organizing funds to the partial support of an EAA organizer. It was generally understood that the whole matter will be reviewed at the 1956 Convention in Dallas. In the meantime, it is presumed that the full dues obligation will be met. The Executive Committee also made plans to have ESA's full time officers spend more time on the West Coast.

Professionalism and Ethics

Many engineers are unshakable in their belief that unionization is thoroughly compatible with professionalism. They have been considerably irked by broad statements in the journals of engineering societies that there is an inherent conflict between unionism and professionalism. Several years ago one of the members of ESA (The Council of Western Electric Technical Employees) tried to do something about this "canard". Unfortunately the editors have not been able to learn what transpired after the publication of the challenge which is here reproduced from *Conference Notes,* November 1954. It is one small indication that engineers organized for collective bargaining are still sensitive to slurs on their professionalism, guided by ethical principles which they have not yet formulated in accepted codes.

CWETE Offers $4000, If—

The offer was made in a letter (printed in the July-September, 1954 *Council Compass)* from CWETE's national chairman, Arthur M. Marin, to the editor of the *American Engineer,* publication of the National Society of Professional Engineers. The letter states that the charges enumerated below have been made by members of the NSPE and repeatedly quoted by engineering magazines. It proposes the tripartite Board of Examiners, jointly financed by CWETE and NSPE, to enquire into the charges so these alleged inaccuracies might be avoided in the future.

The National Council of Western Electric Technical Employees (CWETE) has offered to provide a $4000 scholarship to a worthy student if an independent tripartite Board of Arbitrators should find that CWETE's contract:

(1) restricts individual initiative,
(2) causes individuals to be regimented by union organization
(3) results in a typing of engineering positions and leveling of salaries
(4) damages professional status and prestige,
(5) Stifles individual advancement and recognition of achievements

At least one member of ESA, the Association of Professional Engineering Personnel, RCA, is conscious of the need of formulating a code of ethics to govern the ESA, its member units, and the individuals who make up the units, and safeguard professional status. Here is the
story as told first in the April, 1956, "
ponent."

At the Third Annual Convention hel
Washington, in May 1955, APEP
mitted a resolution calling for a Cod
Ethics to be developed for ESA and
Member Units. Subsequent to that con
tion, the Association was given the
of preparing such a code.

On March 1, a draft of this code
submitted to the Executive Board of
for discussion and its possible adoptio
the Fourth Convention to be held in Da
April 19-22.

(Editor's note—A portion of the l
of transmittal which accompanied the
of Ethics submitted by APEP follows.)

Our task, then, is to lay down a se
professional rules of right and wrong w
will permit us to fulfill the destiny dec
for us by our beliefs and by society. D
that moral principles are embodied in
dedication can only constitute a denia
the existence of good and bad in all
We owe to humanity the obligation of
holding the good in our profession
proving ourselves worthy of the disti
accorded only to the true professional
formal rules of behavior we promulga
unchanging and the considerations
which they were derived are common t
They are based neither on sentimen
expediency. The code of ethics pres
here is recognized as being incomplete
intended to be the stepping stone
which a broader and more complete
may evolve, one which will protect us
moral injury and which will demon
the intention of the Engineers and S
tists of America to properly represent
as a truly professional group.

[Editor's note—APEP did not publis
entire code which it submitted, but set
an outline of "categories" covered b
prefacing the text with the observation
the Founder Societies did not quickly de
a similar code. The APEP committee
that eight societies (including the Fou
Societies) appointed a committee to
a code in 1906 and that the project
reported out of committee in 1912.
partial summation of the text of the
prepared by APEP and submitted to
1956 convention of ESA follows.]

The code as we have so far devis
is broken into two categories:

I. The Individual Engineer
II. The Association

Under the first classification there
sixteen articles dealing with such sp
subjects as:

1. The acceptance of gratuities.
2. The use of employer's name, t
mark, etc.
3. Disclosure of employer's bus
affairs or technical processes.
4. Over-ruling of engineering judg
5. Neglect of work areas.

6. Evaluation of associates.
7. Use of violence.
8. Exchange of advice and assistance.
9. Breach of ethics or legality.
10. Giving credit for ideas.
11. Etc.

. . . One of the statements contained in e Foreward to the code is applicable to gineers with or without reference to ics. The statement is as follows:

'Honesty, justice, integrity, and courtesy ould characterize a professional's conduct all matters. His profession is a way of e, not merely a job.'

The sequel to APEP's story of the ork done by the Association appears in e July, 1956, issue of the "Exponent," follows:

The 1955 ESA National Convention de- eed that a committee be established for formulation of a code of ethics applicable engineers employed in industry and to bargaining units representing such engi- ers. APEP was asked to prepare such a de. R. Barone, G. H. Williams, D. P. nonton, and myself spent many hours in preparation of a code which was pre- nted to the ESA Convention, April 19, 56. We were justifiably proud of the orts we had made and what we felt to a major contribution to this activity.

Some of the articles met with disapproval other member units of ESA, in par- ılar the one which stated that a pro- sional collective bargaining association uld not solicit the aid of a non-professional organization in the imposing of economic sanctions against an employer. This was described by one member unit of ESA as being a poorly disguised organizing policy. This is by way of illustration indicative that the code as we have prepared it does not represent the last word in this area. There will be additions, possible deletions and modifications, before a code is actually adopted, but it is vitally necessary that if organizations of engineers are to remain healthy and untainted they must operate under some code of ethics. It may very well be that the cornerstone for such a code was laid by APEP.

Factionalism in ESA is painfully apparent in the objections raised to the code formulated by APEP. The more aggressive member units which have resorted to strikes have learned that engineer unions are seldom successful unless the non-professional workers respect their picket lines. The strike at Arma would have failed, the various engineer unions concede in their publications, if IUE had not, in signing its agreement with management, stipulated that they would not cross the engineers' picket line—and if they had not exercised this privilege for the final three weeks of the engineers' strike. Adoption of this clause in the code would have been a slap at "blue collar" unions which have, on several occasions, saved the engineers' bacon.

Desire for Professional Recognition

The Famous CWETE Case

Jnderneath all the bargaining for eco- nic advantages, in which engineers' ons are apparently following the lead trade unions, there runs a current of ing which is not at all characteristic of ventional unions. Like several million -professionals, engineers want eco- ic gains, per se, but unlike some of the unions which battle only for in- sed pay, union security and "fringe efits, the engineer unions want these cessions as *recognition* of their value ndustry and to society. That fact be- es apparent in examination of the ggle of the Council of Western Elec- Technical Employees to maintain ely professional" bargaining units and its resistance to policies of the Western Electric Company which the Council firmly believes are detrimental to "purism."

For many months prior to termination of its contract with Western Electric (in November, 1955) the Union had protested the company's practice of giving professional classification to employees hired or transferred into the bargaining units represented by the Council who could not meet the requirements of education and/or experience set forth in Section 2(12) of the Taft-Hartley Act. As the date for renewing the contract drew near, the Union submitted its proposals for correcting this situation—five weeks, in fact, before the expiration date of the existing contract. The Company submitted its "counter-proposals" on November 22, four days before the contract expired. The Company's proposal incorporated a demand that the Union sign a letter recognizing that the Company had (as the Council phrases it) "unlimited authority" to hire or transfer into the bargaining units any persons it deemed qualified as the needs of the business dictated.

Because the Council of Western Electric Technical Employees was the first engineer union to be certified on a national basis as the representative of technical engineers, it has been justly proud of its achievement in working out the original contract with Western Electric. Its members, nevertheless, voted to refuse to renew the contract unless the Western Electric Company reached a satisfactory agreement with the Council on "occupational classifications" clauses. As a result, 8 months have elapsed since the contract expired, and although the Council has submitted 17 counterproposals, the Company is standing by the proposals it made in November. This, the Council contends, is not bargaining as the term is defined in the Taft-Hartley Act and the NLRB's rules.

Several excerpts from the *Council Compass* (published by the Council of Western Electric Technical Employees will be reproduced here to show how bitterly the Council resents "dilution" of its bargaining units with non-professionals, and that recognition of "professionalism" is a stronger motivation than immediate financial gains in the activities of some engineer unions. The first excerpt is from the *Council Compass* of Sept.-Oct. 1955.

On October 5th, 1955, the Council of Western Electric Technical Employees (National), through its legal counsel, filed a violation of contract suit (No. 104-3) against the Western Electric Companp before the Federal District Court located in New York City. Commenting upon the case in the "Council Compass," September-October 1955 issue, page 3, the Council said:

> This unprecedented legal step is the
> mination of very serious disagreements
> tween the Company and the Council on
> subject of the professional standards t
> used for employees to be hired or transfe
> into the Council Unit. The Council in
> that the Company should not give a
> fessional classification, as covered by
> contract, to employees populating these
> which do not satisfy the professional requ
> ments specified in Section 2(12) of
> Taft-Hartley Law. The Company insists
> it will consider (the same way a pe
> considers going to the moon) the requ
> ments of Section 2(12) ; but if, in the C
> pany's judgment, a floor sweeper is
> sidered qualified as an engineer, by mul
> supervisory judgment, he is qualified,
> spective of whatever little experience
> educational background the floor swe
> may have.
>
> In other words, the Council is insis
> on the requirements of specific experie
> education or combination thereof, per
> Taft-Hartley Law and NLRB decisi
> The Company's attitude is that one of
> "fundamental, unassailable, unchall
> able and unquestionable rights of ma
> ment prerogative" is the determinatio
> the qualifications of a job by mu
> supervisory judgment, irrespective of Se
> 2(12) of the Taft-Hartley Law, the N
> decision, and the Council's profess
> ideas . . . a total of over 300 comp
> and grievances have been filed on
> subject . . . The violation of contract
> was filed under the Section 301(a) pr
> of the Taft-Hartley Law.

"Council Compass," (issue of Sep
ber-October 1955, pages 4, 5 and 6)
claims that its position in this controv
is supported by many of the largest
most influential engineering organizat
It states:

> The Council has repeatedly indicate
> the Company that in the engineering
> mere numbers will not accelerate or s
> production, development or manufactu
> problems. Rather, the efficient utiliza
> of qualified engineering personnel w
> solve most of the managerially cre
> problems previously mentioned. This pos
> for more efficient utilization of enginee
> manpower is also advocated by the Nati
> Society of Professional Engineers (NSI
> the Engineers Joint Council (EJC),
> the American Society of Engineering Ed
> tion (ASEE) in their recent studies of
> 400 manufacturing concerns employing
> proximately 70% of all the technical-
> fessionals in this country . . .

Since Section 2(12) of the T
Hartley Act was originally advocate
1947 by the Engineers Joint Cou
(EJC) and the National Society of I
fessional Engineers (NSPE) and i

ndent engineers' unions, the Western ectric Company ideas of managerial pediency on professional status for gineering employees is of foremost in- rest to engineering schools, educators, d professional societies which have con- tently emphasized the importance of ofessional and financial recognition for gineering employees in industry.

The following correspondence between e President of the Engineers and Scien- ts of America (ESA), Mr. J. Amann, d the attorney for the National Society Professional Engineers (NSPE) Mr. ilton F. Lunch, is self-explanatory:

VETE Seeks Cooperation of NSPE Upholding Professional "Purism"

ar Mr. Lunch:

We are quite cognizant of, and ever dy to recognize the desire of your group l its members to advance the cause of fessionalism in the engineering and scien- c field. It is for this reason that we ieve you should be apprised, and in turn rise the appropriate individuals of your anization having such responsibility, of urrent effort to defeat and dilute, if not troy, an outstanding accomplishment in ich your organization had more than a sing interest.

Our reference to past accomplishment is activity of your group and others to suade Congress that professional em- yees, as such should have the right of tion and choice between a homogeneous hetrogeneous group in elections held er the Labor Management Relations Act. s was formalized, as you know, by the ption of the provisions of Sections 2(12) 9(b) (1). . .

We believe that any attempt to dilute, sculate or destroy Section 2(12) is a ct attack upon the concept of purism in fessionalism. . . .

ontrary, as we view it, to the express vision of Section 2(12), contrary to the RB certification of an exclusive unit for ineering employees, contrary to the ractural agreement that the company not reduce "minimum qualifications for occupational classifications involved", Company* has transferred into specific titles and job numbers specified in endix A of the contract individuals who not have, by reason of previous educa- al achievement or practical experience, background essential to qualify under provisions of Section 2(12). Were the plaint restricted to isolated instances, might question the validity of the plaint. The fact is that the number of sfers now approximates something near 10% of the total unit which latter numbers approximately 5500. . . .

Protests, a request for arbitration, and other means of attempting to resolve this diluion of professionalism have been unavailing. The Council, therefore, commenced an action in the District Court for the Second District of New York for the purpose of obtaining specific performance under the contract. Damages are also sought. . . .

We conclude by renewing our opening premise and our reason for calling this situation to your attention. We are confident that NSPE has a vital, real and valid interest in furtherance of professionalism. We would be reluctant to believe that it would not wish to take appropriate action in the face of such a blatant attempt at dilution and destruction of one of its monumental accomplishments, Section 2(12).

You will undoubtedly wish to examine with your appropriate group the desirability of entering an appearance as amicus curiae. . . .

An editor's note appended to this letter further states:

The Executive Board of the National Society of Professional Engineers (NSPE), in a recent meeting in Memphis, Tennessee, unanimously agreed to investigate the Western Electric case through its "Employment Practices Committee in Industry." The Engineers Joint Council (EJC), which represents the eight largest engineering societies in the United States, is also investigating the Western Electric Company case. Both professional groups are considering the idea of appearing before the Federal Court as friends of the Court, since they were mainly responsible for the introduction of Section 2(12) of the Taft-Hartley Law. Engineering societies unanimously deplore the fraudulent use by Western Electric of professional titles for unqualified employees.

Editor's Note: The following excerpt from the "American Engineer" (July 1956 issue) published by National Society of Professional Engineers is the sequel to thiş story, so far as its intervention is concerned.

Action was taken at the last Board meeting approving the Subcommittee's recommendation that NSPE not participate in the above Court case. [Council of Western Electric Technical Employees vs. Western Electric Company]. There has been considerable interest in the Subcommittee's report to the Board, which gave a detailed explanation of the case and the reasons NSPE declined to intervene. Since that time a District Court decision has been rendered which upheld the company in part and the union in part. The company has appealed this decision and the appeal is now pending. In addition, an NLRB field examiner has dismissed the union's claim

---

estern Electric Company

that the company did not bargain in good faith. No further NSPE action is contemplated in this matter other than to follow the developments and report the newsworth items in the Newsletter.

There is nothing conclusive to report on this suit. The Council won the first round, as is indicated in the following story from ESA "News Digest," Nov.-Dec. 1955 issue:

FEDERAL COURT OK'S CWETE-N WESTERN ELECTRIC SUIT

On December 30th, Judge Sidney Sugarman of the Federal Second Judicial Circuit Court in New York City denied a motion by the Western Electric Company to dismiss a suit for $200,000 damages brought by the Council of Western Electric Technical Employees-National-ESA, thus paving the way for trial of the Council action.

The complaint was submitted to the Court in September by Mayer, Weiner & Mayer, attorneys for the CWETE-N-EAS, and charged violation of the Council contract by Western Electric in the transferring of non-professional personnel into the bargaining unit. The court action was entered under Section 301(2) of the Taft-Hartley Act.

The contract clause claimed violated concerns the maintenance of professional homogeneity of the CWETE-N bargaining unit and Section 2(12) of the Taft-Hartley Act, which defines a professional employee. Contract Article 26, Professional Standards, states:

1. It is recognized that the occupational classifications listed in Appendix A require various degrees of professional qualifications. In the selection of individuals to be hired or transferred into such occupational classifications the Company will use its judgment in determining on an individual basis the qualifications for the job to be filled; in the exercise of such judgment, the Company shall give consideration to Section 2(12) of the Labor Management Relations Act, 1947, (Taft-Hartley Act). It is agreed that the Company will not reduce the minimum qualifications for the occupational classifications involved below those used for the employees in the unit at the time of certification of the Council (Jun
1952).

2. The desirabiliy of professional h
geneity in the unit represented by
Council is recognized. To this end
Company will not hire or transfer
the unit individuals who are not qual
in accordance with paragraph 1 a
for the job or jobs involved through
vious experience and/or education.

During the past year the CWET
filed over 300 individual complaints
grievances, charging that Western
tric was placing unqualified indivi
in the unit. When the company ref
to arbitrate in the dispute, the Co
took to the courts, asking for a dec
tory judgment that the company coul
place individuals in the unit who
not meet the test of Section 2(12
that the company could not reduc
minimum qualifications of the occ
tional classifications in the unit.
ages of $200,000 were also asked fo
the basis that the company's actio
diluting the professional homogene
the unit was discouraging membe
in the Council.

Western Electric requested the
to dismiss the Council suit claiming
such an action could not be brought
Section 301(a) of the Act. The com
also contended that any question of
tract interpretation was subject on
arbitration, although it had refuse
arbitrate, and further that it was
within the province of the Cour
determine the qualifications of empl
per Section 2(12).

Judge Sugarman denied the comp
motion to dismiss and said the Co
has a right to a full trial on its sui
damages. He ruled out the Council'
quest for a declaratory judgment, rea
ing that the contract had expire
November 29th, so that the dis
clause was no longer in effect.

(*End of Quoted Material*)

The next item reproduced here
series of excerpts from an article i
"Council Compass" (June-July) 195
which the union purports to state
paraphrase) the Company's attitud

rd the Council of Western Electric
chnical Employees. It is well larded,
wever, with the Council's own inter-
etations of the Company's stand and
tements. We quote as follows:

E COMPANY ANALYZES THE COUNCIL

The present disagreement between the
mpany and the Council has puzzled the
ucational circles a great deal since
estern Electric Company officers are
imarily engineers by background and
ucation. Furthermore, many Council
icers belong to the same fraternities
top management personnel and many
d professional licenses. It appears that,
th such similar professional back-
ounds for responsible officers in the
mpany and the Council, the disagree-
nts should have been resolved a long
e ago. Why haven't they? The diffi-
ty is one that cannot be easily ex-
ined. It includes such complex factors
hurt feelings, strong adherence to past
eptance of unions, misunderstandings,
itical convictions, etc.

owever, a better appreciation of the
npany's thinking can be gleaned by an
lysis of a substantially similar one-
r speech, given by a top Company
kesman at various Western Electric
ncil. . . . Although the speech was
ricted to supervisory personnel, the
ncil, by the utilization of the latest
tronic reproductive devices, is able
give you the highlights of the Com-
y's views on the Council and the
ht of engineers in the Western Elec-
Company. The substance of the Com-
spokesman's speech is as follows:

The Root of the Trouble—The gov-
nent of the country since 1932 (Frank-
D. Roosevelt's first term) has been
ged by its fiscal and tax-wise policy
gigantic economic levelling process.
The Company spokesman considered
own status as typical and pointed out
considering both inflation and taxes
own financial welfare had not im-
ed commensurably with added re-
sibilities and experiences. . . .

The Main Issue—The most serious
greement between the Company and
Council is on the issue of minimum
irements for the employees to be transferred or hired *into* the Council unit. The Company spokesman characterized the Council's ideas as "The Professional Closed Shop." The Company spokesman said that it was a fundamental prerogative of management to transfer employees to any engineering job, irrespective, of the individual's lack of experience and/or educational qualifications. Thus, professional engineering titles would be given by the Company to employees who had not earned their professional spurs by experience and/or education. In other words, no point of reference for qualifications of employees either written or implied. Management judgment to reign supreme irrespective of its numerous inconsistencies or whimsical determination. (Ed. Note: The fact that Section 2(12) of the Taft-Hartley Act delineates the minimum requirements for professional employees and that almost all other engineers' unions spell out such employee requirements in their respective contracts is the Council's way of clarifying the issue with facts.)

3. *Vertical Classifications*—The proposals by the Council for five vertical levels were characterized by the Company spokesman as disguised seniority proposals. The Company must have unfettered authority to move engineers upward, sideways, downward, consistent with the needs of the business—without having to fulfill certain requirements of ability, potentiality or performance as suggested by the Council. Freedom to reclassify employees without any rules whatever is very important to the Company. . . .

4. *College Recruiting*—The recruiting of college graduates has been hampered by the incessant and unwarranted attacks on the Company in the "Council Compass" which has a very wide circulation in college circles. In almost all the places the Company's college recruiters go, they are met with copies of the "Compass" purporting to present factual information on the personnel policies of the Company. The accuracy of the salary curves and statistics presented by the "Compass" is not questioned, but the tone and slant of the editorials could be improved. In a visit by Company college recruiters to

Columbia University it appeared that the whole campus was flooded with issues of the "Compass." It is a deep mystery to the Company spokesman how professional people in Western Electric tolerate the publication of a magazine which uses the "New Yorker's" flippant style for serious problems and is at such odds with the Company on basic policy.

[Editor's Note: The reference here is undoubtedly to the highly irreverent but undeniably entertaining story (published in the "Council Compass," May, 1956) of the A.T. & T. Stockholders meeting, replete with pungently satirical "profiles" of those who attended and spoke.]

* * * *

In spite of all the venom spewed out in the bitter wrangle over the contract and the deep chagrin apparent in litigation, there is unmistakable evidence that Western Electric Engineers take pride in the company and in their connection with it.

At almost the same time that the Council of Western Electric Technical employees brought suit against the Company for violation of contract, representatives of the Council, speaking for Western Electric's technical employees, intervened in the famous A.T. & T. case on the side of the Company. According to the "Council Compass" (November-December 1955 issue) the Federal Government (in court case No. 17-49) had brought a number of charges against the A.T. & T. Co., Bell Telephone Laboratories and Western Electric Company, accusing it of a number of monopolistic and illegal practices prohibited by the Sherman Anti-Trust Act. The Council's position was stated as follows:

> The proposal by the Federal Government to trisect the Western Electric Company is an unwarranted threat to the livelihood of the engineers and scientists represented by the Council. Such intended separation would inevitably affect unfavorably the pension rights, working conditions, salaries, etc. of the employees covered by the Council. Because such a move by the Government would not be in the best interest of the public, the professional employees and overall engineering efficiency, the Council vigorously opposes the solutions propounded by the Justice Department.

The Council's arguments were based
three broad premises: that an integra
company could give the public be
and more economical service; that
integrated service, providing interchan
able or connectable equipment, insu
efficiency; that the existing system
accounted, through its research dep
ment, for immensely valuable inventi
and developments made available to ot
companies under reasonable lice
charges, and that research of this mag
tude would have been impossible with
the system's great manpower pool
trained scientists.

WHAT ARE THE ENGINEERS BARGAINING FOR?

Some of the rights for which engine
are bargaining are fairly specific.
house organs of each of the mem
units of ESA report gains every time
unit negotiates a new contract
management. These gains can be tabul
in specific terms. There are several
sues, however, on which they seem
be challenging a system or a preva
condition.

In the ESA News Digest of A
1956 contract victories for three of
constituent unions are reported as
lows:

Technical Association of Ward Leonar
ESA recently secured salary, holiday
group insurance improvements.

Changes in the contract which ex
April 15, 1957, include: 4½% gen
increase, plus an additional 2½% in
maximum of the salaried rate range

Friday-after-Thanksgiving added a
holiday bringing the total holidays to

Engineers Association-ESA (Spe
Gyroscope) secured the following ad
tages in their new contract:

Time-and-one-half overtime pay
salaries up to $520 per month; then $
per hour.

Three weeks vacation after 12 y
for hourly employees—same as sala
All past service to count toward vaca
benefit, even if employee terminated
was re-employed.

Holidays—One-half day before Ch

s and New Year's, for a total of ten idays.

Tuition refund for night school in- ased from 50% to 100% with no maxi- m limit.

Company agreed to share equally with ployees the cost of major medical urance coverage.

Leaves of absence for ESA full-time ployees are made available under the v contract.

ilway Technical Engineers-ESA groups ort salary gains through this year's ntract negotiations. Chicago and North- stern unit obtained a 10% general in- ase retroactive to Dec. 1, 1955, and o an improved sick time rule and re liberal accrual of vacation benefits new employees. The Great Northern ilway unit reported satisfactory re- luation of job classifications, with in- ases running from $28 to $66 per nth. The largest group, the instrument- n, received $53 increases. Top jobs eived the largest increases.

* * * *

The Fight For Principals

canning all the union publications one the impression that these are minor cessions, and that the real force that ls the unions together is a desire on part of members to change firmly blished practices or attitudes of man- nent hurtful to engineers and their essional pride. There is general con- (evidenced by the volume of material nion house organs) over three issues. y are:

Their lack of definite information he merit system and its operation; "unilateral" decisions of management iving merit raises.

The underlying significance of the n publicized "shortage" of engineers cerning whose existence they are skeptical).

The disparity between beginning ies offered by company recruiters aduating engineers and the salaries men with 5, 10, or more years of rience.

veral stories will be reproduced here union house organs which typify an attitude, that is rather general among members of engineer unions. The first entitled "De-Merit System" appeared in the June, 1956, issue of APEP's "Exponent."

De-Merit System

There are two schools of thought on increases either granted or denied by the company. Both of these schools of thought stem from the same basic considerations. As engineers, we have been indoctrinated into passive acceptance of a system of remuneration called merit. Without examining the way the system operates we assume that it is truly merit. An examination of the system itself in many instances shows it to be based not on merit but on political expediency.

The engineer feels that the merit system is to reward his engineering abilities and prove beneficial to his welfare. It is in reality a method of coordinating a financial activity in such a way as to get the greatest result for the least expenditure. In order to determine this, an engineer must necessarily put himself in the place of the company; then the most immediate question facing him would be: "How can I keep the cost of the merit system to the minimum, retain complete control of it, and influence the people to which it applies, with the most productive return to the company?"

The company achieves the objectives of the previous question by the way in which the merit system is administered. Taking the objectives one at a time, we find that:

1. How to keep the cost down—only the company is involved in the determination of who receives an increase and how much they are to receive. This, of course, permits an easy fluctuation of the financing involved. . . .

2. The time between increases is fixed by contract and although the contract allows shorter merit intervals, the number of people receiving early increases in any given year is a negligible fraction of the bargaining unit. . . .

3. Determination of the amount of the increase does not lie solely with members of management most closely aware of the individual's performance. On the contrary, it is predominantly controlled by those three or more steps away in management and includes an evaluation by personnel who, of course, have no knowledge of the individual concerned. . . . This method of controlling the amount of the increases allows the level to be fixed as some arbitrary figure predetermined in a yearly budget.

4. The second major method for retaining control of the merit system is accomplished by sole and unilateral determination of the number of persons receiving increases . . . This requires an extensive program of secrecy which is continuously

encouraged by supervision. . . . Another major point of influence is the limitation that has been placed on the amount of the increase. An analysis of the engineering payroll granted in merit increases reveals percentages as follows:

1952	7.8%
1953	7.6%
1954	7.3%
1955	7.5%

. . . This shows there has been a fluctuation of only plus or minus 0.25% in four years of operation. This certainly cannot be the result of stable merit, but rather stable budgeting. . . .

When all the above factors are analyzed, several questions arise:

1. Is the present merit system a good one or is it used primarily as an equalizing tool by the company?

2. Should engineers be aware of the political atmosphere enveloping the merit system?

3. Should merit be determined solely by the company, and if so using what yardstick?

4. Why the need for secrecy if the aim of the merit system is to reward outstanding engineers?

5. Under what guise of merit does the company classify the advantage it takes of the thirty day grace period in notification of review?

6. Why are the majority of engineers reluctant to discuss the application of the company merit system with them?

Under caption of "Go West—Or Else" the "Sperry Engineer" (issue of June-July 1956) reported that the Engineers Association of Sperry Gyroscope had filed a grievance to stop the "pressure tactics" used by the company to induce engineering employees to move from the Long Island plant to the new California and Salt Lake City operation.

"Approximately 70% of the department members were asked to move to California," the article in the "Sperry Engineer" states, and continues—

> "They were promised a 22½% relocation allowance for a six month period, and salary increases ranging from 6 to 12%. These raises were labeled as 'merit raises' by Department Head, P. Vestigo, even though it was quite clear that men who remained at Great Neck would not receive them. As a further precaution, it was decided to grant the raise only after that individual had actually relocated in California.
>
> "The May Merit Review was a crushing blow for the department members. Only 3 out of 60 Class I employees received merit
> increases. These three had not been c
> sidered for relocation."

In the same issue there is editor
comment on the dispute by Charles H
president of the Engineers Associati
under caption of

Supervisors' Discretion

Bargaining for professional benefits s
as full refund of tuition and recognit
on technical reports is comparatively sim
because everyone knows what he wa
However, how do you bargain *collecti*
for *individual* wage adjustments or m
increases. It cannot be done. The Ass
ation must content itself with bargaining
fringes. It can establish minimum sala
for jobs and criteria must be established
determine what job an employee is do
so that the minimum salary may not
circumvented. It can set up rules and re
lations to be followed in the determinat
of a man's right to merit increases. It
bargain for general salary increases w
apply to everyone. It can bargain for sp
salary increases which must be given
meet special conditions. . . .

In an ideal society a man's mone
compensation for work performed w
be based on the value of his contrib
to society. However, it would be dif
to reduce traits such as ability to take or
from superiors, ability to supervise
ordinates, ability to solve engineering p
lems, and all the many traits that de
mine an individual's value to the comp
into coefficients for factors in an equat
which can be solved by rigorous ma
matics. Sperry Rand Company may s
day develop a UNIVAC which can
form this complex operation, a mac
into which can be fed the various impor
ables for each individual and out of wh
will come that individual's proportio
share of the Gross National Product. U
that day the engineering employees at Spe
will have to depend on Section He
Super-department Heads, Department He
Directors, and Vice Presidents to make
determination for them. . . .

It is easy to see how a supervisor,
one side, might reason that a man's will
ness to accept added responsibilities at s
remote location would be a factor in de
mining his *merit*. It is also easy to see,
the other side, that a man who is offered
increase in responsibilities with a cor
ponding increase in salary would feel
the location in which he is willing to t
on this added load and increased sa
has nothing to do with his job performa
It is quite clear that a salary increase
pendent on a man's willingness to m
is a *transfer bonus* and not a *merit incre*

HE “SHORTAGE” AND “COMPRESSION OF SALARIES”

Two of these issues are inextricably olved. Engineers are not able to lerstand why the “shortage” impels ployers to engage in cut-throat compe- n for new graduates, but does not ce them to offer better salaries to the perienced men already on their pay- ls. Some of the engineers read into s situation motives which they cannot perly define. They see a dark con- racy to flood the country with a sur- s of engineers in order to reduce all gineering compensation when the mar- is glutted. Usually, this view is ted obliquely and in connection with discussion of the unreasonably small ead between the salaries of beginning gineers and those of experienced men. re is a story in which the foreboding rather plainly stated, from the May- e 1955 “Federation Reporter,” MFHE.

nd we quote:

FACT OR FANCY

recent issue of *The American Ma- ist* carried an article that the loud s of a shortage of engineers are about be softened. This conclusion is based survey made for the National Science ndation, and is concerned primarily those industries dealing heavily with arch and development.

owever, the article says, “The only shortages—at least in R & D and be in all industry—are for people lots of experience in very narrow ialties. This is mainly in the aircraft electronics industries. *There is no lack oung engineers and scientists fresh of college.*” (Editor’s emphasis.)

e wish to pick no quarrel with either National Science Foundation for its ey; or the editors of the *American hinist* for their interpretation. How- to use a very un-original phrase, ’s something screwy here.

blication after publication in the ness and industrial field have for a er of years wept copiously about ngineer shortage. These publications pitted industry against industry in battle for engineering talent. They have made the argument for more engineers an untouchable matter by placing it on a patriotic plane. “Russia leads U.S. in Technological Development” are the headlines.

The search for engineers goes on in other media. Companies advertise lavishly for talent. Recruiting officers swarm down on the college campuses, enticing the new graduate to sign up.

To add to the confusion, salary surveys demonstrate that the monies being paid to engineers are inconsistent with the “shortage.” The ESA survey has demonstrated that, while the newly-graduated engineer is being hired at record levels, the salary of his experienced companions has slipped drastically in relation. A survey by the NSPE shows that engineers, as a group, are not paid on a par with other professionals.

According to the laws of supply and demand, then, the experienced engineer is in excess supply, while the recent graduate is at a premium. This is a direct contradiction of the NSF survey.

There are other possibilities. Could it be that American business has embarked on a gigantic program to create an artificial situation so as to eventually depress the wages of *all* engineers? This is a fantastic idea, we admit, but then none of the other “answers” tie together.

* * * *

In the June-July 1956 issue of “The Sperry Engineer” “salary compression” is reported statistically as follows:

Much has been said about salary compression, but rarely have precise statistics been available. In the March-April issue of “Council-Compass,” the following table for salaries at Western Electric was presented. From this you can draw your own conclusions.

Date	Monthly Starting Salary	Monthly Top Salary	Ratio
1929-1937	$100	$360	3.60
1938-1940	130	425	3.27
1941-1942	160	485	3.03
1943-1945	185	550	2.97
1946-1948	230	640	2.78
1949	265	675	2.55
1950	305	725	2.38
1951	325	750	2.30
1952	345	780	2.26
1953	365	850	2.33
1954	365	890	2.44
1955	375	890	2.37
1956	400	930	2.32

Although the group of articles quoted below deal primarily with salary "compression" (the disproportionately high salaries of beginning engineers in comparison with salaries of experienced men) they show the relation of this "compression" to the engineering "shortage." The first is quoted from the "General Bulletin" of the Association of Industrial Scientists (January, 1956):

THE SHORTAGE AND THE SALARY STRUCTURE

"An immediate result of the shortage of scientific manpower is the fierce competition among employers for the services of young scientists currently completing their training. The short-term outlook for graduate students in science is improving. Upon receiving a Ph.D. they can confidently expect to receive offers ranging upwards from $600 per month from at least 5 to 10 employing agencies. One might ask, "What brighter future could a young scientist expect?" What is not realized by these eager searchers for knowledge (and money) is that only their starting salaries have been affected by the shortage. They have yet to learn that employers do not evaluate the services of older, experienced scientists on the same standards as those of shiny, new Ph.D's. It used to be a good rule of thumb that an above-average scientist should double his starting salary through merit raises during the first 15 years of his career. An interesting question on the qualifying examination for Ph.D. candidates might be the following:

"Ques. The West Coast laboratories of an outstanding research organization in the petroleum industry employ 375 scientists in non-management positions. Of these, what number earn more than twice the present starting salary for inexperienced Ph.D.'s?

Ans. (a) 0 (b) 1 (c) 10 (d) 50

"The correct answer (b) may startle even some of our readers."

* * * *

The second item is quoted directly from the ESA News Digest of April 1956, and the third is reproduced from "Conference Notes," March, 1956 (which quoted it from the ESA News Digest):

SALARY COMPRESSION BEHIND ENGINEERS TURNING TO UNIONS

At a recent meeting in Chicago of
American Management Association, J
E. Gagnon, director of personnel
labor relations for Olin Mathieson Ch
ical Corporation, stated that engin
were becoming more inclined to turn
ward unions for the solutions of t
employment problems. Grievances c
included professional status, more t
off for professional meetings and lea
of absence to take graduate courses,
the very imporant element of money.

The substance of Mr. Gagnon's rema
was reported in the March 12th issue
"Chemical and Engineering News,"
official publication of the American Ch
ical Society.

The $400 to $425 starting salaries
engineers are getting this year are rea
ably high. Trouble develops later on.
don't progress fast enough to keep a
of new recruits in succeeding years.
result, turnover increases, which is
expensive to the company than pa
higher salaries.

For example, a plant recently los
good engineers because the pay scale
fallen behind. These six men had betw
three and four years experience. Now
company will have to pay almost as m
to new graduates this summer with
experience at all. Saving a few dollars
salary proved to be very costly.

Doubling engineers' starting salaries
the last 10 years may seem like remark
progress, but many people fail to re
that steelworkers' wages have more
doubled. Also, engineers with five and
years experience are now making less
double what engineers with compar
experience were making ten years ago.

ADVERTISEMENT BY GENERAL ELECT

Full page and two page advertisem
by General Electric in various publicati
including "Time Magazine" and the "W
Street Journal" proposed "five ways to
solve America's critical shortage of e
neers." The suggestions are:

1. Guide high school students into e
neering careers.
2. Bring business men and educa
together to see value of mathematics
science in business.
3. Help schools financially.
4. Develop employees on the job.
5. Encourage self-development.

ESA Reply to G.E. Advertisement
Let G.E. buy up some more space

ish the salaries of its engineers in parison with its own factory workers. *I don't mean recent hires.* Let it nine the ratio between its factory wages its salaries for engineers with five ten years experience back through the s. It will find that this ratio has dropped dily for a generation. Kids in high ol, who are smart enough to handle neering mathematics, are smart enough know what this declining ratio means n planning their careers.

rom the APEP *Exponent,* June, 1956, es the fourth exhibit to show how blished engineers feel about the in- ities.

PRESIDENT'S IMPRESSIONS

5700 per year is being offered by RCA this month's graduates in engineering, in addition a $600 bonus ($700 if ried) is being given.

his is a wonderful opportunity for the engineer, but what does it presage for e with 2-3-5 years experience? Many hese experienced people make no more is now being offered to new graduates. e are those within management whose ions tell all too plainly that they don't a major concern at this growing in- y. They say some people are born too

e factors contributing to the present tion have been the subject of hundreds ticles in the last couple of years. Many ions have been proposed, the most priate one being to boost the pay of more experienced engineers in direct rtion to the increase in starting rates.

rtunately for the engineer, industry ot seen fit to adopt this solution, RCA ng no exception, in spite of its lead- position in the field of electronics.

e major problem has been the inability ose most vitally concerned with the ion to forcefully bring to the attention management what the existing policy ng to the morale, prestige, and security engineers already employed.

e turnover within RCA, as in other nies, is no small figure and represents ry serious threat to the continued ess on many key projects. Unless ne with vision and foresight makes stic change in the merit program in to start the elimination of inequities, ntinued leadership of RCA in engi- g and science may well begin to fall.

* * * *

eral of the member units of ESA been able to secure redress for these nces in contract negotiations, ad- nts (percentage or other types) to the pay of experienced engineers ne with salaries paid young graduates just entering company employment. The following story from ESA "News Digest" relates such a victory at Sperry.

SALARY DECOMPRESSION FEATURED IN NEW SPERRY CONTRACT

Working from a formula first proposed by the Engineers Association-ESA, the new contract for the 2600 engineers, scientists and technicians of Sperry Gyroscope on Long Island grants larger increases to the higher salaried employees—specifically designed to overcome the trend toward salary compression with experience.

Accepted by a 96% membership vote, the new two-year agreement provides for increases of 2½% to 9% this year and 2½% next year. The average increase this year was 4.55%.

Another story in the ESA News Digest, April, 1956, indicates that the attitude of experienced employees toward the graduating engineers who are being offered extremely high beginning salaries is not one of the dog-in-the manger things. This is the item.

AIA AGAIN

In a previous issue of the "News Digest", we recounted the infamous AIA "Gentlemen's Agreement," which the Air Force had disclaimed in a letter to ESA President Joseph Amann.

This restrictive hiring practice of the member companies of the Aircraft Industries Association was directed against those engineers who were already employed.

Now it is reported that the AIA companies have amended their "Gentlemen's Agreement" in an effort to restrict the last remaining engineer "free market"—that of the graduating student. The new agreement provides for a standard maximum salary to be offered—$425 per month.

UNFAIR LABOR PRACTICE CHARGES

Some of the time and resources of engineer unions are consumed in filing and prosecuting charges of "unfair labor practices". Many of them are concerned with vital issues such as the union's right to participate in formulation of employee stock purchasing plans, deduction of ½ of social security payment from the Company's pension payment to retired employees, the company's refusal to bargain in good faith, and the firing of employees for protected union activities.* Some of them, however, deal with rather minor incidents in which the union feels that some fundamental principle (such as freedom of speech or assembly) is violated. Two such cases are publicized in the October 1955 and April 1956 issues of the "Federation Reporter."

Twice in the last year Minneapolis Federation of Honeywell Engineers has appealed to the General Counsel of the NLRB to review decisions of the 18th Regional Director of the NLRB. In one case an unfair labor charge (filed on April 29, 1955) arose from refusal of the Company to put in writing details of an insurance program that had been agreed to by the parties. The other case involved a union meeting which was held in the lunchoom despite a company edict that such meetings could not be held on company property and warnings delivered by a supervisory employee at the time of the meeting. Announcement of both appeals was made in the October, 1955 issue of the "Federation Reporter."

In the latter case, the employees held their lunchtime meeting at a table in the plant where they usually ate lunch. The meeting was prearranged to discuss the raising of a strike fund after a dea was reached in contract negotiat After the meeting was held two emplo (union representatives) were suspe for a week, and the other workers sent reprimand letters. In his deci upon the appeal, General Counsel Ka holz of the National Labor Rela Board, decoded that the employees propriated the use of company prop for union purposes" and that the hol of the "formal" meeting in "defianc the company's policy" was not prote activity. The outcome of the appeal announced in the "Federation Repor for April 1956.

*Unfair Labor Practice charge against B was filed January 15th in the case of the Arma Engineers who were refused jo Boeing. SPEEA's stand is that Boeing ha lated the Taft-Hartley requirement that a ployer must not discriminate against a dividual because of his participation in lawful actvities of a duly certified labor orga tion—in that it refused to hire two engi while their certified collective bargaining (EA) was conducting a strike against A ("Exponent," March 1956)

(To be concluded in the next i Vol. 42, No. 1)

Random Processe
in
Automatic Contr

By J. H. LANING, JR.,
and R. H. BATTIN

Instrumentation Lab., MIT
429 pages, illustrated, $10.00

HERE IS the basic background in theory of random signals and together with practical techniques t used in the analysis and synthesis linear control systems which are jected to random inputs. The b brings together a variety of conc and techniques useful to both pract engineers and research scientists. basic concepts of probability and ra time functions are treated in d

Order your copy from
A.A.E. BOOK DEPARTMENT
8 So. Michigan Ave. Chicago

To help you reach the* ONE BEST *design solution

Here is a book on machine design that helps you weigh and consider the thousands and one factors that go into the right *design decision* and hence that lead to the best design solution. Outlines the steps in the scheming or "pencil-thinking" stage of the design process; appraises the relative importance of nearly a score of design factors such as strength, safety, appearance, flexibility, cost, noise, etc.; shows you how to size up the competitive situation and goes into the important subject of manufacturing processes.

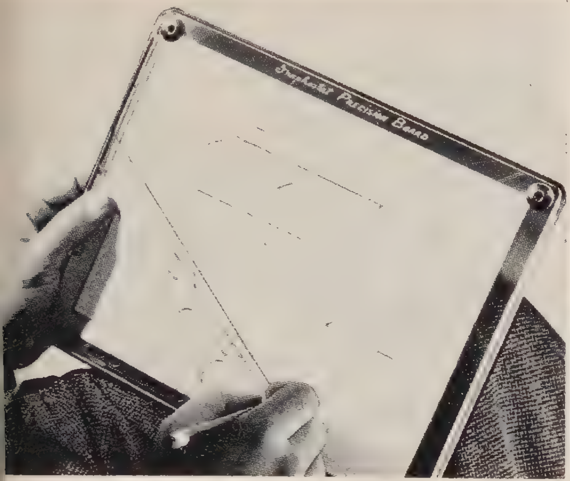
Machine Design

By Joseph E. Shigley
Clemson College

523 pages, 337 illustrations, $7.75

Special features of the book include methods of designing against fatigue; the material on design of bolted joints; the design of grooved pressure-fed sliding bearings; and the material on design of frictional-contact rim clutches and brakes.

Order your copy from
A.A.E. BOOK DEPARTMENT
8 So. Michigan Ave. Chicago 3, Ill.



Transparent Plastic Drawing Board

New Precision Drawing Board

Plastic drawing board that can be carried easily in briefcase. Weighs less than 8 ounces

The Graphostat portable drawing board should have interest for architects and engineers who make small sketches in the field. Made of a single molded 9¾ x 12¼ inch piece of clear styrene plastic, the board has four corner clamps for attaching 8½ x 11 inch paper. It is unnecessary to use thumb tacks. Clamps are cleverly recessed into the plastic so that the triangle can ride freely over them without interference.

Metal straight edges at two sides of the board (one vertical and one horizontal) are retractable so that the triangles can be moved over all four edges of the paper. Light weight, the board can be carried easily in a briefcase. Triangles may be stored in recesses underneath the board and can be clamped securely in place. The high luster plastic presents an excellent long lived drawing surface with no thumb tack dents to cause bothersome drawing errors. For

ARTISTS
ARCHITECTS
CIVIL ENGINEERS
DESIGNERS
DRAFTSMEN
INVENTORS
MECHANICAL ENGINEERS
STUDENTS
SURVEYORS
TOOL DESIGNERS

Price $4.95

with Two 8-in. Triangles to fit the board

ORDER FROM

A.A.E. BOOK DEPARTMENT

outh Michigan Ave. **Chicago 3, Illinois**

Why the killer came to Powder Springs

THE SKINNY little Texan who drifted into Butch Cassidy's layout at Powder Springs one day in '97 had dead-level eyes, a droopy mustache, and two six-guns tied down for the fast draw. Called himself Carter. Said he was a killer on the run.

That's why Cassidy and the outlaws in his notorious Wild Bunch told him all about the big future plans for their train robbers' syndicate. They took him in.

And he took them in. He was a range detective whose real name was a legend in the West—Charlie Siringo. And the information he got before he quietly slipped away stopped the Wild Bunch for a long, long time.

Of course, Siringo knew all along that if Cassidy or the others had discovered the truth, they'd have killed him sure. But it just never worried him any.

You couldn't scare Charlie Siringo. Coolest of cool customers and rawhide tough, he had the go-it-alone courage it takes to build a peaceable nation out of wild frontier. That brand of courage is part of America and her people—part of the country's strength. And it's a big reason why one of the finest investments you can lay hands on is America's Savings Bonds. Because those Bonds are backed by the independence and courage of 165 million Americans. So buy U.S. Savings Bonds. Buy them confidently—regularly—and hold on to them!

in your Professional Engineer's license FASTER . . .

h this complete refresher for P.E. examinations!

e's an authoritative guide to
you prepare to pass licensing
minations in the proved rapid,
y manner. Questions and an-
rs prepared by an examination
ert shows exactly the type of
stions you will be asked—readily
w the areas where you can im-
ve your knowledge—*before you*
yourself in the examination
m.

get over 500 questions selected
n actual examinations for the Professional Engineer License, the Land Surveyor License, and the Engineer - in - Training Certificate.

For every question there is a detailed answer of the type examiners accept and credit.

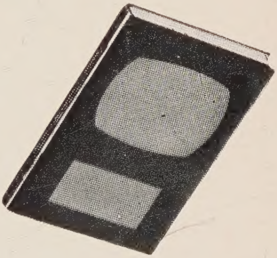
Representative of the examinations being given now in all states, these questions cover mechanical, electrical, civil, and chemical engineering, and include engineering economics and land surveying.

PROFESSIONAL ENGINEER'S

EXAMINATION QUESTIONS AND ANSWERS

By WILLIAM S. LA LONDE, Jr.

icensed Professional Engineer; Chairman, Department
f Civil Engineering, Newark College of Engineering



462 pages, 5½x8
215 illustrations, $6.50

solutions to all of these problems will serve
as a guide for the clarity expected when you
working on your particular examination.
, these solutions will help you not only check
knowledge but show you how to state your
ers so the examiner can follow the solution
ccept it as correct

rience has proved that some of the best prep-
on for license examinations is the working
number of typical problems. With the help
is book you get that effective preparation—
atter what your field of engineering is, or
hat part of the country you take your ex-
ation.

CONTENTS

How to Use This Book
Legal Registration
A Model Law—Definitions
Suggested Experience Qualification Guide
Addresses of Registration Boards

QUESTIONS FROM P.E. EXAMINATIONS ON:

- Basic Fundamentals
- Chemistry, Science, and Materials
- Electricity
- Hydraulics
- Mathematics and Measurements
- Mechanics
- Thermodynamics
- Chemical Eng'g.
- Civil Eng'g.
- Electrical Eng'g.
- Engineering Economics and Business Relations
- Mechanical Eng'g.
- Structural Eng'g.
- Land Surveying

ANSWERS TO QUESTIONS

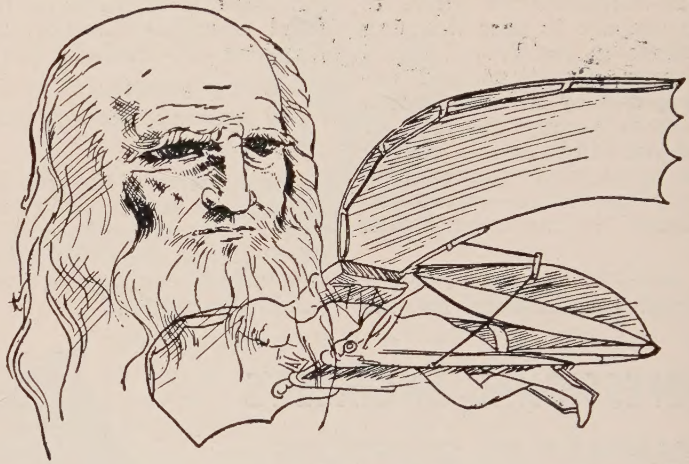
Send for your copy today

A.A.E. BOOK DEPARTMENT

8 S. Michigan Ave.
Chicago 3, Ill.

KNOWLEDGE IS POWER

By Frank K. Levin



26

HISTORY

Why is it so important to learn about the Renaissance?

Between the 14th and 16th centuries there was a vast and tumultuous reawakening of mankind. The Renaissance bridges all that had happened before, all that has taken place since. You could begin a fascinating study of history with the Renaissance—then reading about events leading up to it, and all that happened afterward to create this world in which you live.

SCIENCE

Who wrote a book in reversed mirror-image writing that is one of the greatest volumes ever produced?

Just about five hundred years ago, in 1452, a man born in Tuscany left behind a very remarkable book. His manuscript, in reversed mirror-image writing, was illustrated by his own drawings. This book revealed Leonardo da Vinci to have been one of the greatest geniuses who ever lived. From his observations of birds in flight he designed an airplane which was actually flown by one of his students or servants! He designed the forerunner of the present day helicopter. His tent of linen predates our modern parachute.

ENGLISH

Can reading aloud help a person become an effective speaker?

If you would like to learn how to talk effectively before groups and are now unsure of yourself, try this simple experiment. Read aloud for about a half hour to an hour a day every day. If possible to others, otherwise to yourself. Get used to hearing your own voice, for ordinarily you do not give it attention in your daily conversations. After you have tried this experiment for a month or so, express in your own words things you have read. This simple training program worked very well with a group of business men. Perhaps its effectiveness lies in the fact that it makes a simple thing of what is too often unduly complicated.

In response to many requests, the American School has published a booklet of these features. Copies may be had without charge by writing Frank K. Levin, 400 W. Madison St., Chicago 6, Ill.

Facts You Should Know As a High School Graduate

Copyrighted 1954 and distributed by American School, Chicago 37, Ill.